WHAT IS CLAIMED IS

1. A gas turbine, having a cooling air system supplying air for cooling a high-temperature part of said gas turbine and a spray air system supplying air for spraying fuel into a combustor, and formed so that a part of high-pressure air compressed by a gas turbine compressor is used as air for said cooling air system and said spray air system, wherein a heat exchanger and a boost compressor are arranged downstream of the outlet side of compressed air of said gas turbine compressor, and said boost compressor is composed of a parallel connection of a compressor driven by a turbine shaft and a compressor driven by a drive source other than said turbine shaft, and pressurized air from said boost compressor is used as air for said cooling air system and said spray air system.

2. A gas turbine, having a cooling air system supplying air for cooling a high-temperature part of said gas turbine and a spray air system supplying air for spraying fuel into a combustor, and formed so that a part of high-pressure air compressed by a gas turbine compressor is used as air for said cooling air system and said spray air system, wherein a heat exchanger and a boost compressor are arranged

downstream of the outlet side of compressed air of said gas turbine compressor, and said boost compressor is composed of a parallel connection of a compressor driven by a turbine shaft and a compressor which is driven by a drive source other than said turbine shaft and operated when said gas turbine is started, and pressurized air from said boost compressor is used as air for said cooling air system and said spray air system.

3. A gas turbine according to claim 1 or 2, wherein between said compressor driven by said turbine shaft and said compressor driven by a drive source other than said turbine shaft, switching means for switching to said spray air system is installed.

4. A gas turbine according to claim 1 or 2, wherein on the output side of high-pressure air of said compressor driven by said turbine shaft and said compressor driven by a drive source other than said turbine shaft, a check valve is installed.

5. A gas turbine according to Claim 1 or 2, wherein in said spray air system on the output side of high-pressure air of said boost compressor, a heat exchanger for cooling spray air is installed.

6. A gas turbine according to claim 1 or 2, wherein on the output side of high-pressure air of said boost compressor, pressure adjustment means for adjusting outlet pressure is installed.

7. A gas turbine according to claim 1 or 2, wherein said compressor driven by a drive source other than said turbine shaft is a compressor driven by a motor or a compressor driven by an internal-combustion engine.

8. A gas turbine according to claim 1 or 2, wherein said compressor driven by a drive source other than said turbine shaft is a compressor driven by a motor, and on the outlet of each of said compressors, a check valve is installed, and in said spray air system, a heat exchanger for cooling spray air is installed, and on the output side of high-pressure air of each of said compressors, an adjustment valve for adjusting discharge pressure is installed.